Fig. 1

REGION I

```
ATGERPYRS   116 GGKRVR
LA15778.p   110 . . . . . .
CAGERDIS.   118 . . . . . .
ATGGPSRP.    88 .P..AP
GGPS.pep     43 ...L.
SPCRT.pep    64 .A_.I.
RCPHSYNG.   192 .A_.I.
EHCRTS.pe    54 ...I.
MXCRTNODA   104 .._.L.
NCAL3.pep   197 ._.DI.
```

REGION II

```
ATGERPYRS   147 EMIHTMSLIHDDLPCMDNDDLRRG
LA15778.p   141 . . . . . . . . . . .
CAGERDIS.   149 . . . . . . . . . . .
ATGGPSRP.   119 ..V.AA. . . . ..D.PV...
GGPS.pep     74 .VL.FT.V. . . .I. ..Q.NI...
SPCRT.pep    95 .L..CA..V. . . ..F.DAEI...
RCPHSYNG.   223 .LM.CA..V. . . .AF..A.I...
EHCRTS.pe    86 .LT..A..ML. . .M...AE...
MXCRTNODA   136 .LL.FL... . . .VA.QAE...
NCAL3.pep   226 ._.L..A..LV. . . .VE.SV...
```

REGION III

```
ATGERPYRS   238 GQVVD
LA15778.p   230 . . . . .
CAGERDIS.   238 ...A.
ATGGPSRP.   211 ..Y..
GGPS.pep    160 ..A..
SPCRT.pep   185 ..GWE
RCPHSYNG.   313 ..AWE
EHCRTS.pe   175 ..FR.
MXCRTNODA   199 ..YL.
NCAL3.pep   260 ..GM.
```

REGION IV

```
ATGERPYRS   265 KT
LA15778.p   255 ..
CAGERDIS.   263 ..
ATGGPSRP.   230 .F
GGPS.pep    185 ..
SPCRT.pep   203 ..
RCPHSYNG.   331 ..
EHCRTS.pe   199 ..
MXCRTNODA   226 ..
NCAL3.pep   286 ..
```

REGION V

```
ATGERPYRS   293 GLLFQVVDDIL_DVTKSSK_ELGKTAGKDLIADK
LA15778.p   283 ..M.........V...........V...
CAGERDIS.   291 ...............E.........VV..
ATGGPSRP.   256 .M.Y...TE.KK..YDGGAE.GMMEMAEEL.
GGPS.pep    211 .IA..I.....GLTADEKE...PVFS.IREG.
SPCRT.pep   227 .EA..A..LR..ALCDAE_T...P.Q.E.HAR
RCPHSYNG.   355 .SA..IA..LK..ALM.AE_AM..P..Q.IANER
EHCRTS.pe   225 .QA..LL..LRD.HPET...DRN..A.G.
MXCRTNODA   247 ..AY.LR..L.GLFGD.NV_A..A.DG.FLQG.
NCAL3.pep   272 ..I..IA..YHNLWNREYT_AN.GMCE..TEG.
```
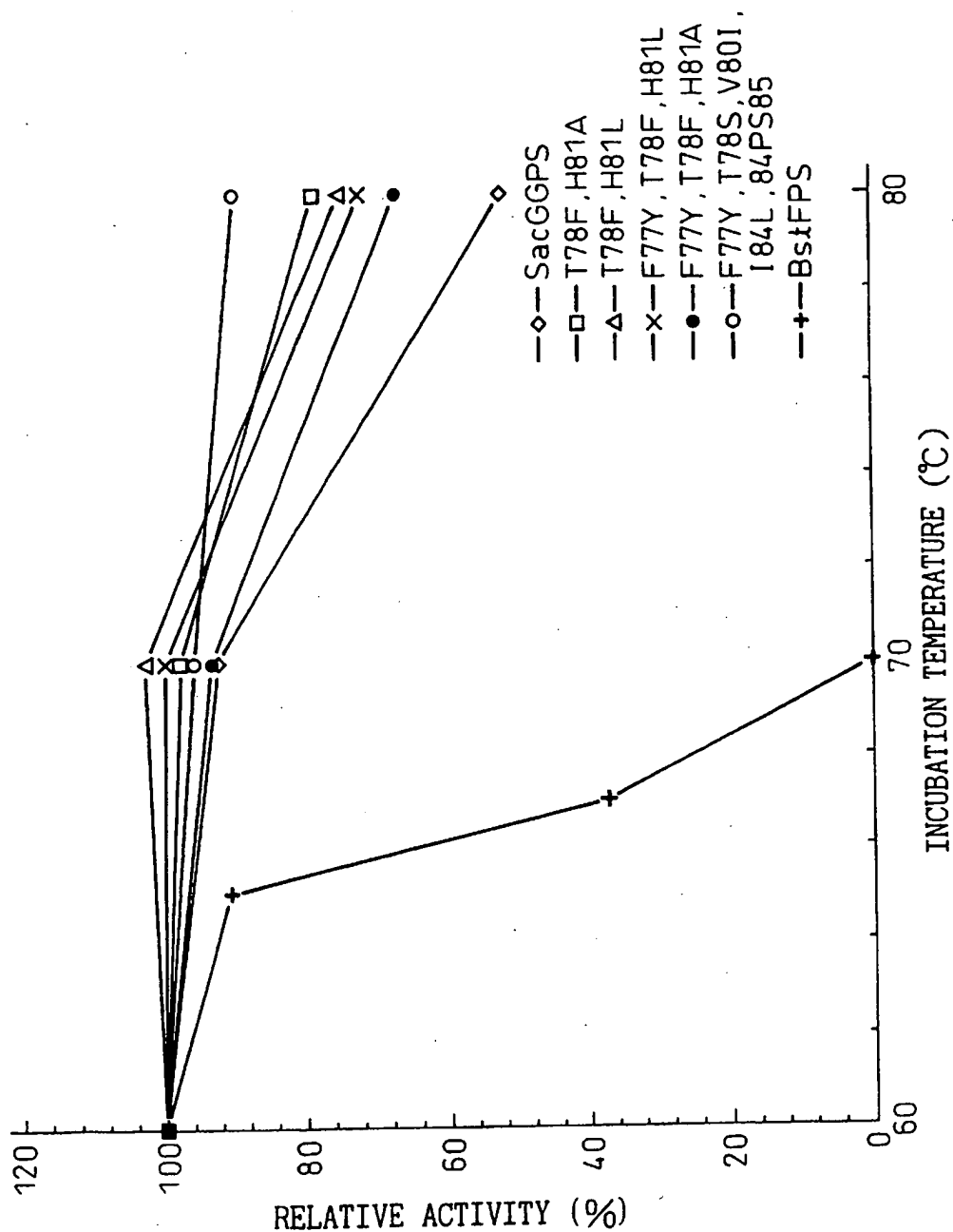
Fig.2

SacGGPS
T78F,H81A
T78F,H81L
F77Y,T78F,H81L
F77Y,T78F,H81A
F77Y,T78S,V80I,
I84L,84PS85
BstFPS

RELATIVE ACTIVITY (%)

INCUBATION TEMPERATURE (°C)

Fig. 3